

## ABSTRACT OF THE DISCLOSURE

An end-to-end approach is provided for developing and maintaining network device management applications. The approach includes an XML-based development environment for network device management applications that uses Management Data API (MDA) schemas that define a hierarchical data model for components supported by a network device. The XML-based development environment also uses XML schemas to define a common XML-based interface used by management applications to access management data maintained on the network device. The approach provides programmatic access to network device management data and management data schema with an XML-based data model and interface that is consistent across all network device components. The approach includes mechanisms for automatically generating XML requests that conform to a hierarchical data model from requests that conform to a table-based data model. The approach also includes mechanisms for automatically extracting data from XML replies and conforming to the table-based data model.